

Power Efficiency Comparison on Evaluation Board

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LCEN Series achieves high efficiency from light load to heavy load while enabling downsizing.

Evaluation 1

High Efficiency from Light Load to Heavy Load

As expected from DCR and ACR comparison results, the LCEN series on our evaluation board demonstrates high efficiency from light load to heavy load. The circuit is effective in reducing loss at high current.

[Test Conditions]

DC/DC Converter conditions

$V_{in}=5.0V$, $V_{out}=1.8V$,

$F_{sw}=2.0MHz$, $L=0.47\mu H$

$I_{out} \sim 4A$

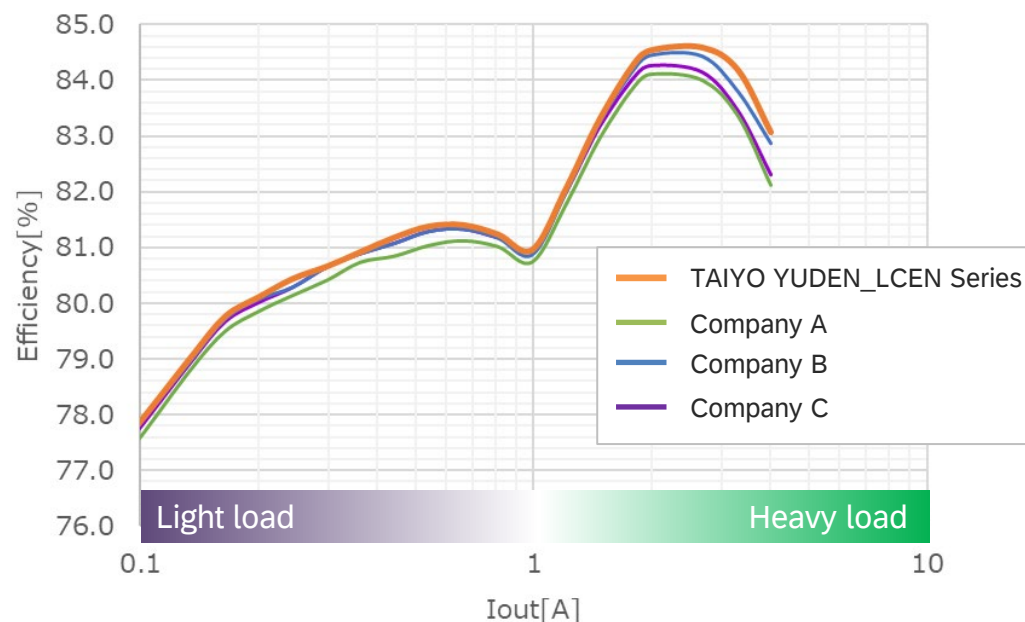


Summary

- Superior efficiency across a wide load range from light to heavy load
- Low loss performance even under high current conditions
- Enables compact design while maintaining high efficiency

Efficiency Measurement Result

2.5x2.0mm/0.47 μH



Evaluation 2

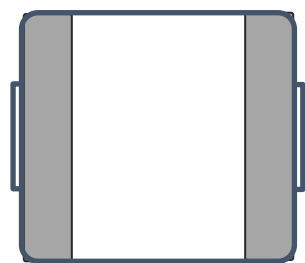
High Efficiency Achieved by Downsizing

Compared with larger 4 mm class inductors, LCEN3225WK series achieves comparable or higher efficiency in a significantly smaller package.. We contribute to reducing board area and cost through downsizing while supporting multi-function and high-performance designs.

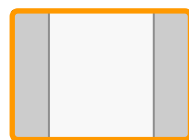
[Test Conditions]

DC/DC Converter conditions
 $V_{in}=5.0V$, $V_{out}=1.8V$,
 $F_{sw}=2.0MHz$, $L=1\mu H$
 $I_{out} \sim 5A$

55% Size Reduction!



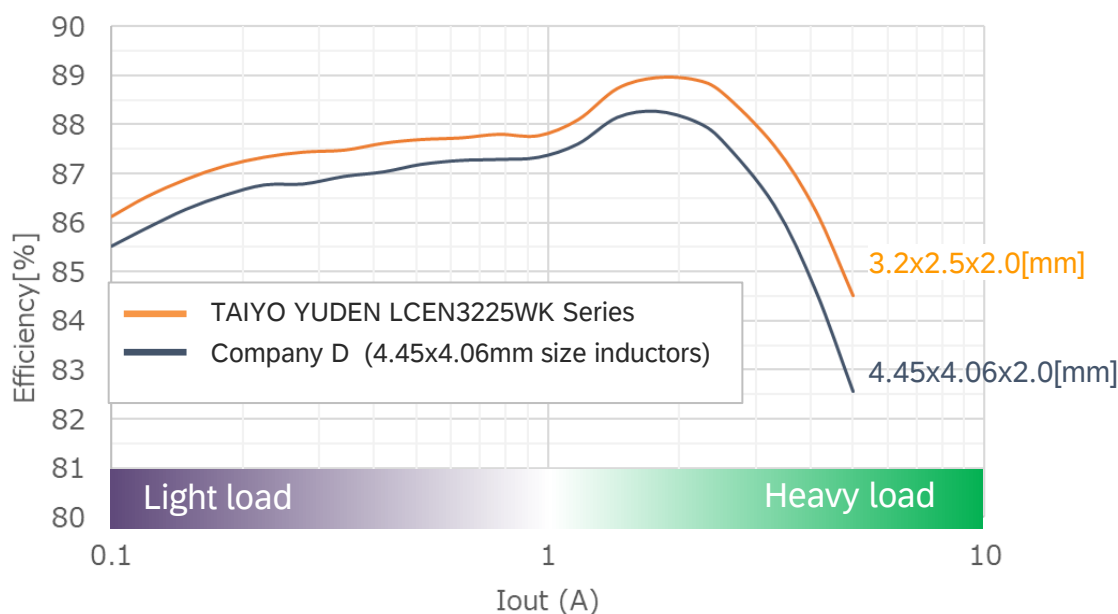
4.45x4.06x2.0[mm]



3.2x2.5x2.0[mm]

Efficiency Measurement Result

1.0 μH



Summary

- 3.2×2.5×2.0 mm size achieves comparable or higher efficiency than conventional 4 mm square inductors.
- Enables approximately 55% size reduction while maintaining high efficiency, contributing to reduced board area and lower system cost.